

Durethan® AKV 30 H2.0
PA66-GF30

Envalior

 PA 66, 30 % glass fibres, injection moulding, heat-ageing stabilized
 ISO Shortname: ISO 1874-PA 66, GHR, 14-100, GF30

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Molding shrinkage, parallel	0.4 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.9 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	10000 / 6000	MPa	ISO 527
Nominal strain at break	4.4 / 6.7	%	ISO 527
Stress at Break	175 / 110	MPa	ISO 527
Strain at Break	3 / 6	%	ISO 527
Impact Strength (Charpy), +23°C	75 / 85	kJ/m ²	ISO 179/1eU
Impact Strength (Charpy), -30°C	60 / 60	kJ/m ²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	10 / 14	kJ/m ²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	10 / 10	kJ/m ²	ISO 179/1eA
Puncture - maximum force, +23°C	900 / 1160	N	ISO 6603-2
Puncture - maximum force, -30°C	800 / -	N	ISO 6603-2
Puncture energy, +23°C	2.8 / 5.4	J	ISO 6603-2
Puncture energy, -30°C	2.3 / -	J	ISO 6603-2
Flexural Modulus (23°C)	9200 / 5700	MPa	ISO 178
Notched Impact Strength (Izod)	10 / 10	kJ/m ²	ISO 180/1A
Temperature	-30	°C	-
Impact Strength (Izod), 23°C	60 / -	kJ/m ²	ISO 180/1U
Ball Indentation Hardness	220 / 120	MPa	ISO 2039-1

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	263 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	240 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	250 / *	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	230 / *	°C	ISO 306
Coeff. of Linear Therm. Expansion, parallel	30 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	90 / *	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thickn.	HB / *	class	UL 94
Thickness tested	1.6 / *	mm	-
Burning Behav. at thickness h	HB / *	class	UL 94
Thickness tested	3.2 / *	mm	-
Oxygen index	23 / *	%	ISO 4589-1/-2

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	4 / 12	-	IEC 62631-2-1
Relative permittivity, 1MHz	4 / 4	-	IEC 62631-2-1
Dissipation Factor, 100Hz	120 / 2700	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	190 / 800	E-4	IEC 62631-2-1
Volume Resistivity	1E13 / 1E10	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / 1E13	Ohm	IEC 62631-3-2
Electric Strength	35 / 30	kV/mm	IEC 60243-1
Comparative tracking index	475 / -	-	IEC 60112

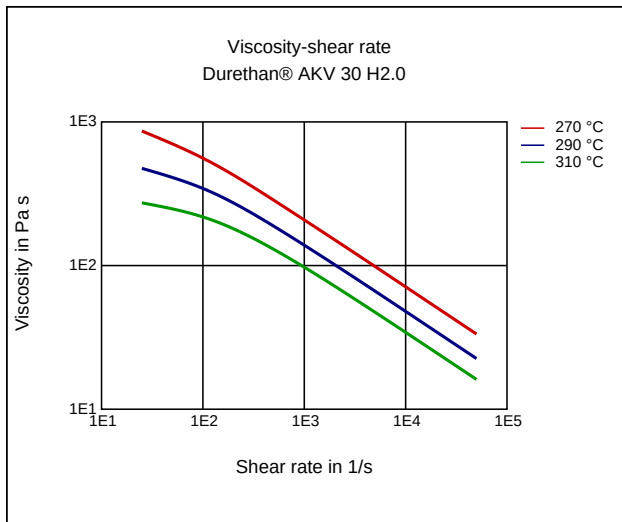
Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	5.5 / *	%	Sim. to ISO 62
Humidity absorption	2 / *	%	Sim. to ISO 62
Density	1360 / -	kg/m ³	ISO 1183
Bulk density	700	kg/m ³	-

Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	1160	kg/m ³	-
Thermal Conductivity of Melt	0.256	W/(m K)	-
Spec. heat capacity of melt	2280	J/(kg K)	-
Eff. thermal diffusivity	9.73E-8	m ² /s	-
Ejection temperature	185	°C	-

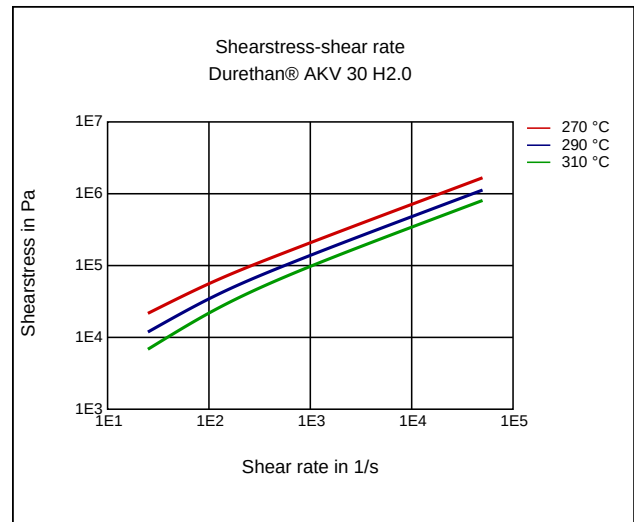
Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	290	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294

Diagrams

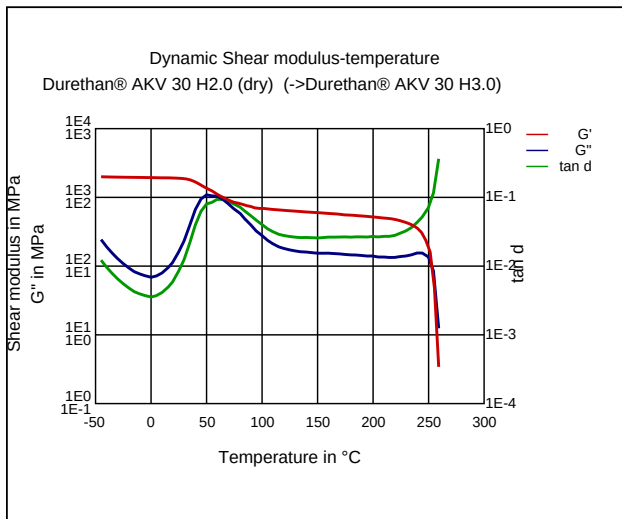
Viscosity-shear rate



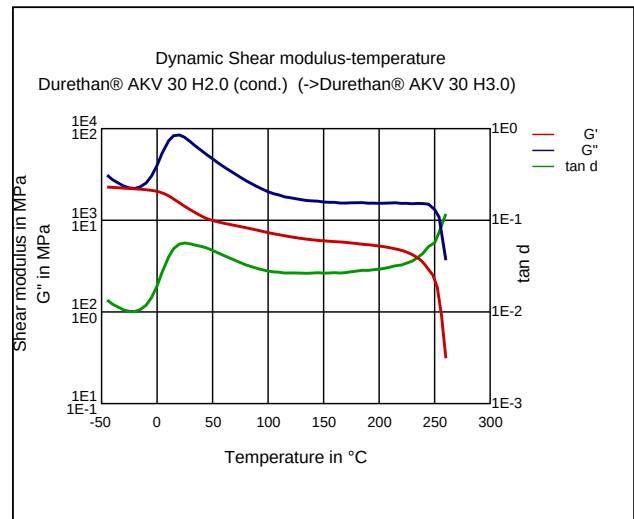
Shearstress-shear rate



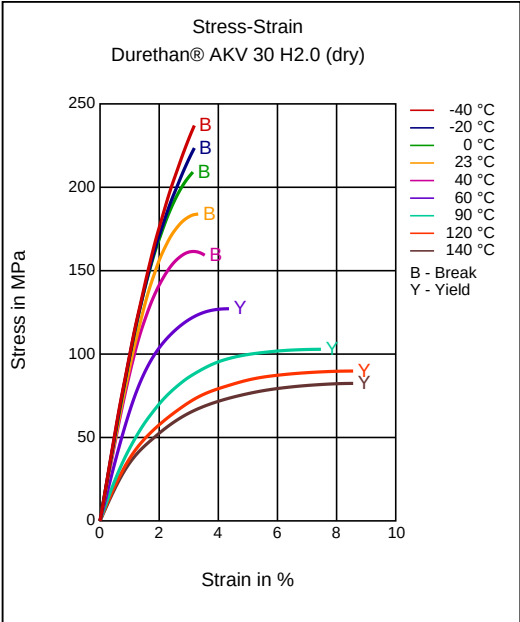
Dynamic Shear modulus-temperature



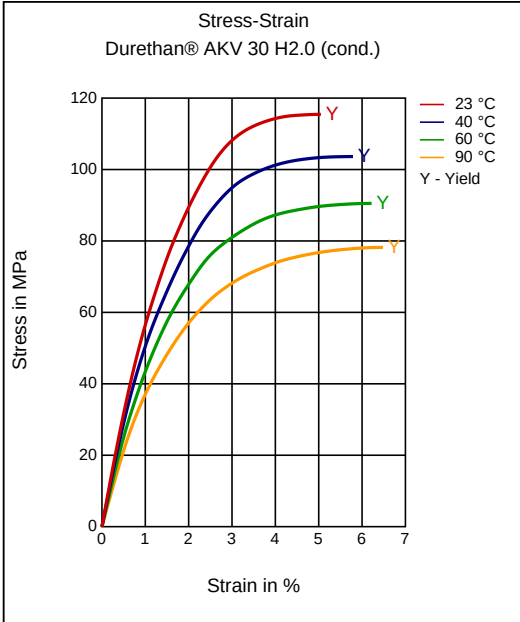
Dynamic Shear modulus-temperature



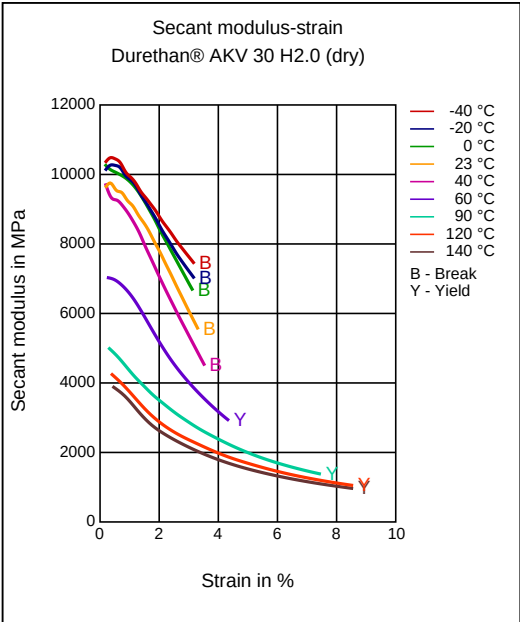
Stress-strain



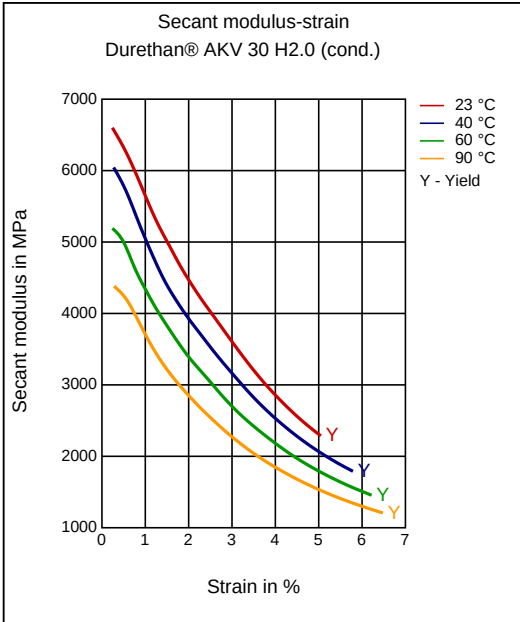
Stress-strain



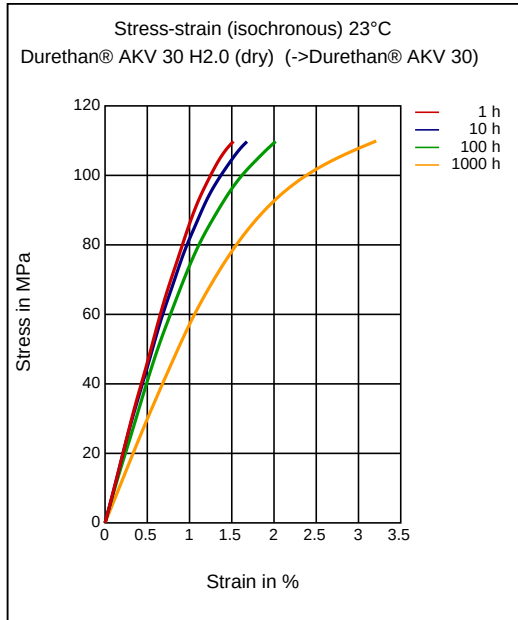
Secant modulus-strain



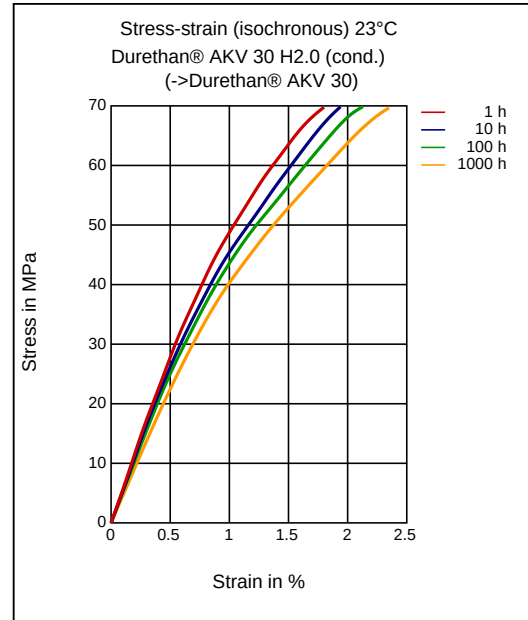
Secant modulus-strain



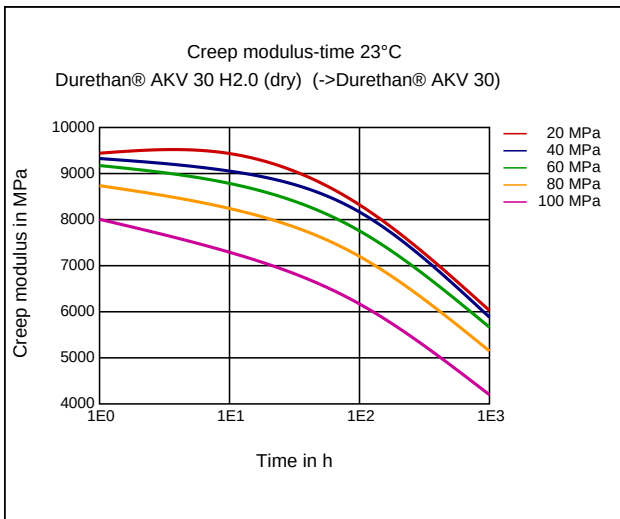
Stress-strain (isochronous) 23°C



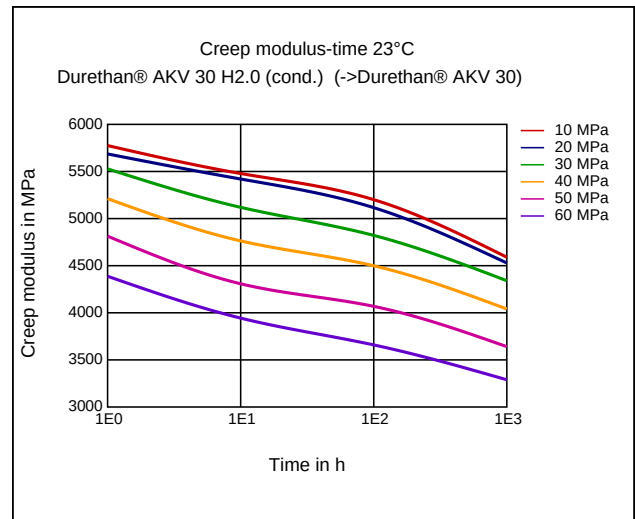
Stress-strain (isochronous) 23°C



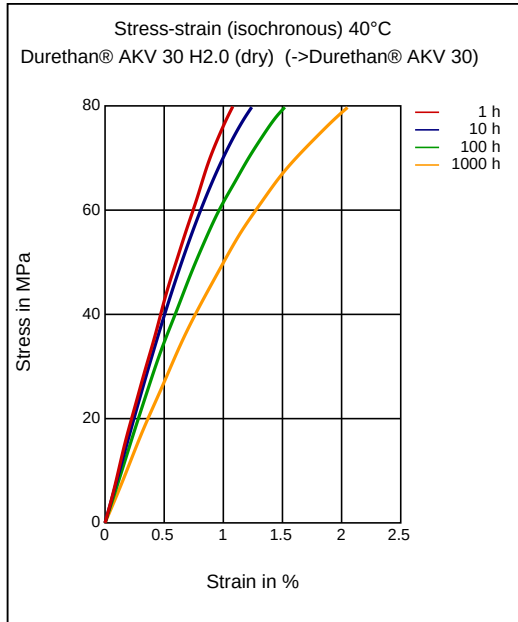
Creep modulus-time 23°C



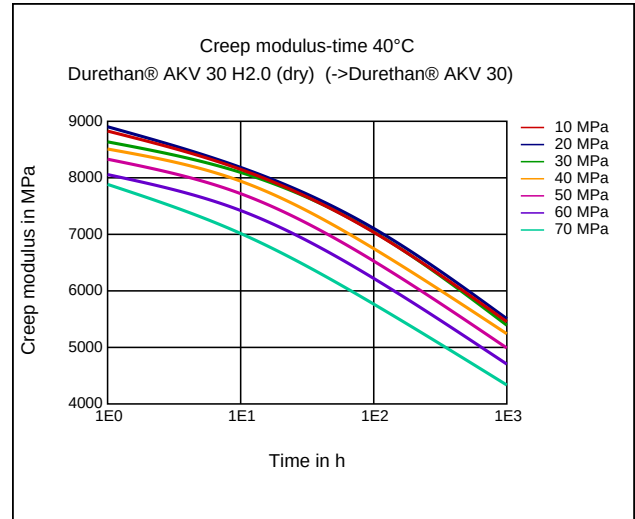
Creep modulus-time 23°C



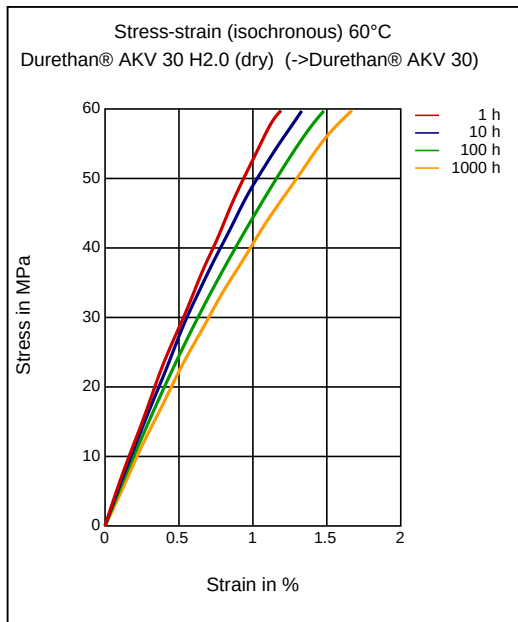
Stress-strain (isochronous) 40 °C



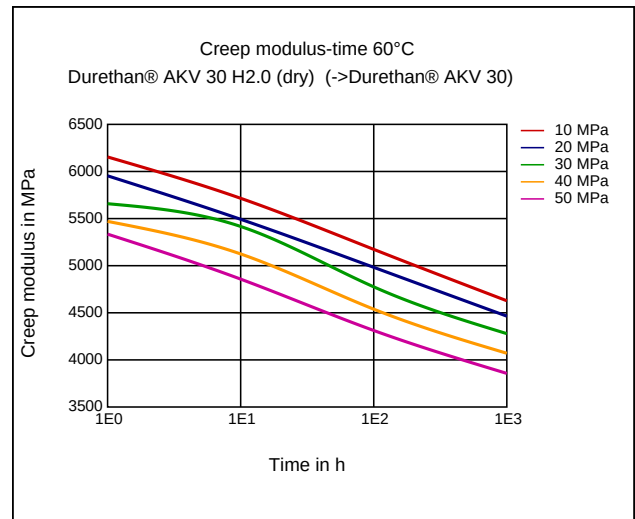
Creep modulus-time 40 °C



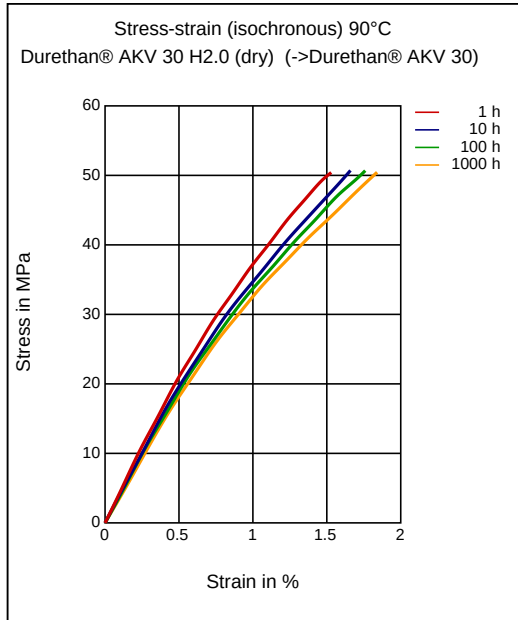
Stress-strain (isochronous) 60 °C



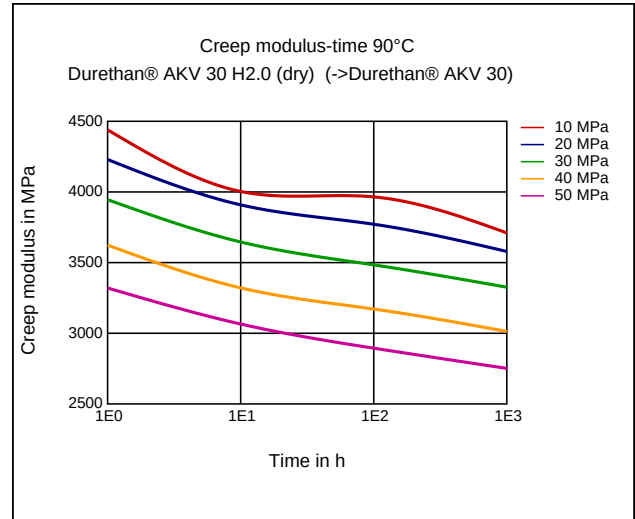
Creep modulus-time 60 °C



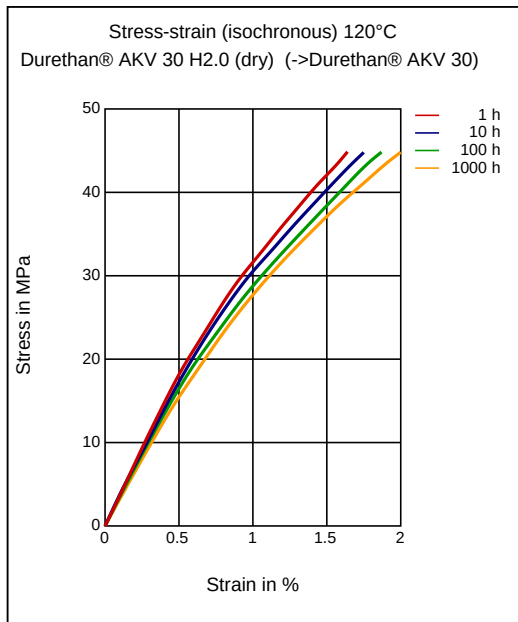
Stress-strain (isochronous) 90 °C



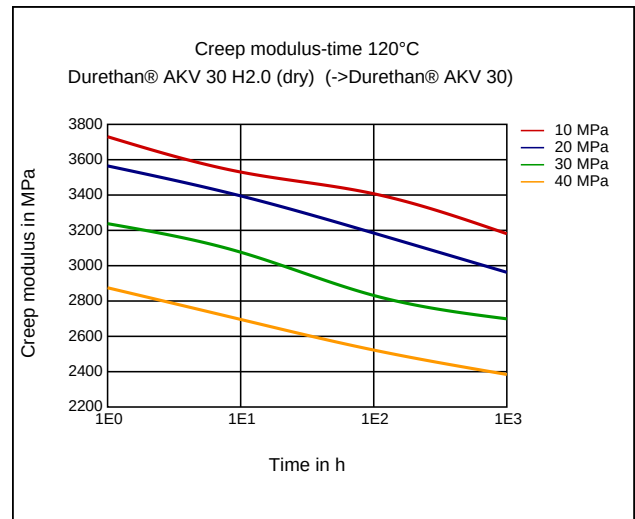
Creep modulus-time 90 °C



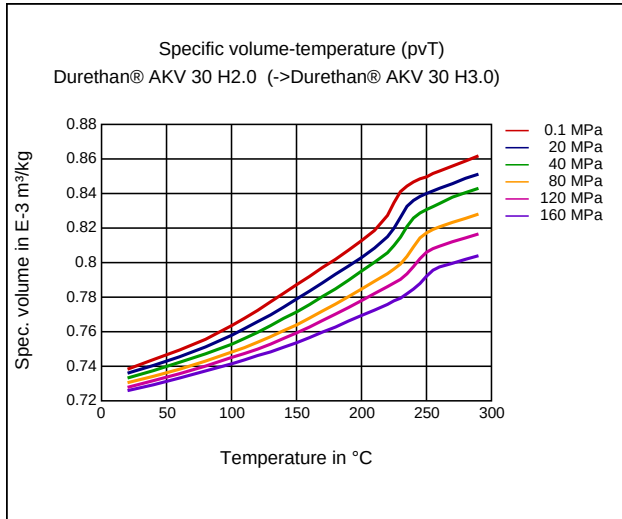
Stress-strain (isochronous) 120 °C



Creep modulus-time 120 °C



Specific volume-temperature (pvT)



Characteristics

Processing

Injection Molding

Additives

Release agent

Special Characteristics

Heat aging stabilized

Injection Molding

PREPROCESSING

Max. Water content: 0.1 %

Drying temperature: 80 °C

Drying time:

Dry air dryer 2-20 h (will depend on the initial moisture content)

PROCESSING

Melt temperature: 280 - 300 °C

Mold temperature: 80 - 120 °C

Disclaimer

Liability Exclusion

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